



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
[www.uspto.gov](http://www.uspto.gov)

| APPLICATION NO.   | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO.              | CONFIRMATION NO.       |
|---|-------------|----------------------|----------------------------------|------------------------|
| 10/518,278  | 12/15/2004  | Carl Christensen     | PU020290                         | 6691                   |
| 7590  | 05/11/2009  |                      |                                  |                        |
| Joseph S Tripoli<br>Thomson Licensing Inc<br>P O Box 5312<br>Princeton, NJ 08543-5312 |             |                      | EXAMINER<br>RUTKOWSKI, JEFFREY M |                        |
|   |             |                      | ART UNIT<br>2416                 | PAPER NUMBER           |
|   |             |                      | MAIL DATE<br>05/11/2009          | DELIVERY MODE<br>PAPER |

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

|                              |   |  |
|------------------------------|---|--|
| <b>Office Action Summary</b> | <b>Application No.</b><br>10/518,278    | <b>Applicant(s)</b><br>CHRISTENSEN, CARL |
|                              | <b>Examiner</b><br>JEFFREY M. RUTKOWSKI | <b>Art Unit</b><br>2416                  |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).

Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

1) Responsive to communication(s) filed on 20 February 2009.  
 2a) This action is FINAL.      2b) This action is non-final.  
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

4) Claim(s) 1-6,8 and 10-16 is/are pending in the application.  
 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
 5) Claim(s) 5,6,13 and 14 is/are allowed.  
 6) Claim(s) 1-4,8,10-12,15 and 16 is/are rejected.  
 7) Claim(s) \_\_\_\_\_ is/are objected to.  
 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

9) The specification is objected to by the Examiner.  
 10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
 a) All    b) Some \* c) None of:  
 1. Certified copies of the priority documents have been received.  
 2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

1) Notice of References Cited (PTO-892)  
 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)  
 3) Information Disclosure Statement(s) (PTO/SB/08)  
 Paper No(s)/Mail Date \_\_\_\_\_

4) Interview Summary (PTO-413)  
 Paper No(s)/Mail Date \_\_\_\_\_  
 5) Notice of Informal Patent Application  
 6) Other: \_\_\_\_\_

## **DETAILED ACTION**

**Claims 7 and 9** have been cancelled.

### ***Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after allowance or after an Office action under *Ex Parte Quayle*, 25 USPQ 74, 453 O.G. 213 (Comm'r Pat. 1935). Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, prosecution in this application has been reopened pursuant to 37 CFR 1.114.

Applicant's submission filed on 02/20/2009 has been entered.

### ***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

4. **Claim 1** is rejected under 35 U.S.C. 103(a) as being unpatentable over Kato et al. (JP-63-73754), hereinafter referred to as Kato, in view of the Admitted Prior Art, hereinafter referred to as the APA.

5. For **claim 1**, Kato discloses an intra-system unit that includes a reference select circuit made up of selectors **13-0** and **13-1** [figure 2]. In Kato's invention, when the system clock generators **12-0** and **12-1** are functioning normally (error-free), each selector passes the clock signal as a first and second signal [**page 5, Application examples, 4<sup>th</sup> paragraph**]. However, if one of the system clock generators **12-0,12-1** malfunctions (contains an error), one of the selectors **13-0,13-1** selects the clock signal from the clock generator that is functioning properly [**page 5, last paragraph**].

6. Kato does not disclose the use of first and second reference inputs. The APA discloses broadcast routers with multiple reference inputs are well-known in the art [**0005 of the Pg Pub for the instant application**]. It would have been obvious to a person of ordinary skill in the art at the time of the invention to use multiple reference inputs in Kato's invention to synchronize audio signals.

7. **Claim 2** is rejected under 35 U.S.C. 103(a) as being unpatentable over Kato in view of the APA as applied to **claim 1** above, and further in view of Shuholm (US Pat 6,104,997).

8. For **claim 2**, the combination of Kato and the APA does not disclose the use of a router matrix. Shuholm discloses a broadcast router where output streams are sent to a conventional matrix router [**col. 2 line 56**]. It would have been obvious to a person of ordinary skill in the art at the time of the invention to use a router matrix in Kato's invention to make use of a well-known architecture for digital audio.

9.     **Claims 3 and 4** are rejected under 35 U.S.C. 103(a) as being unpatentable over Kato in view of the APA as applied to **claim 1** above and further in view of Lydon et al. (US Pat. 6,680,939), hereinafter referred to as Lydon.

10.    For **claims 3 and 4**, the combination of Kato and the APA does not disclose the use of transmit or receive expansion ports. Lydon discloses the use of multiple expansion conductors (ports) in a matrix switch core with a large number of inputs and outputs [**col. 4 lines 45-48 and figure 3**] (claim 3: wherein said at least one router component further comprises a transmit expansion port; claim 4: wherein said at least one router component further comprises at least one receive expansion port). It would have been obvious to a person of ordinary skill in the art at the time of the invention to use input and output expansion ports in Kato's invention to avoid collisions at the switch core.

11.    **Claims 8, 10 and 15** are rejected under 35 U.S.C. 103(a) as being unpatentable over Shuholm in view of Kato and Watanabe et al. (US Pg Pub 2002/0031148), hereinafter referred to as Watanabe.

12.    For **claim 8**, Shuholm teaches a digital audio receiver with multi-channel swapping [**title**], used in a broadcast router [**col. 1 lines 25-35**]. The receiver has a first input for the first two channels of an Audio Engineering Society (AES) signal **12** and a second input for the third and fourth channels of an AES signal **13**(providing a broadcast router having first and second reference inputs; applying a first reference signal to said first reference input). Shuholm teaches input streams may be read in any combination depending upon a user's input to a pair of selectors [**col. 2 lines 45-50**] (if said user desires that said broadcast router operate with multiple reference signals, applying a second reference signal to said second reference input).

13. Shuholm teaches the input signals could come from multiple sources [figure 3].

Shuholm does not teach the use of redundant reference signals. Watanabe teaches an integrated circuit that uses a two mode selector that selects either a second clocking signal or allows a first clocking signal to be applied redundantly [0028, figure 1]. It would have been obvious to a person of ordinary skill in the art at the time of the invention to use Watanabe's circuit in Shuholm's invention to allow for different sources to be used as a clocking signal [Watanabe, 0008-0009].

14. Shuholm does not disclose the use of a reference select circuit. Kato discloses an intra-system unit that includes a reference select circuit made up of selectors 13-0 and 13-1 [figure 2].

In Kato's invention, when the system clock generators 12-0 and 12-1 are functioning normally (error-free), each selector passes the clock signal as a first and second signal [page 5,

**Application examples, 4<sup>th</sup> paragraph.** However, if one of the system clock generators 12-0,12-1 malfunctions (contains an error), one of the selectors 13-0,13-1 selects the clock signal from the clock generator that is functioning properly [page 5, last paragraph]. It would have been obvious to a person of ordinary skill in the art at the time of the invention to use Kato's reference select circuit in Shuholm's invention to improve system reliability [Kato, page 2, last paragraph].

15. For claim 10, Shuholm does not disclose reference signal components that are reference signal insensitive. Kato's components are reference signal insensitive because the components work with either clock generating circuits. It would have been obvious to a person of ordinary skill in the art at the time of the invention to use Kato's components in Shuholm's invention to improve system reliability [Kato, page 2, last paragraph].

16. For **claim 15**, the combination of Shuholm and Watanabe disclose a hardware structure that operates on independent or redundant clock signals (reference signals) [**Watanabe, figure 1**]. Additionally, Watanabe's selector allows the router to operate without having to make modifications at the hardware level. It would have been obvious to a person of ordinary skill in the art at the time of the invention to use Watanabe's circuit in Shuholm's invention to allow for different sources to be used as a clocking signal [**Watanabe, 0008-0009**].

17. **Claim 11** is rejected under 35 U.S.C. 103(a) as being unpatentable over Kato in view of the APA as applied to **claim 1** above, and further in view of Watanabe.

18. For **claim 11**, the combination of Kato and the APA disclose independent or redundant reference signals are well-known in the art [**0005 of the Pg Pub for the instant application**]. The combination of Kato and the APA does not disclose the reception of independent or redundant reference signals without modification of the reference inputs. Watanabe disclose a hardware structure that operates on independent or redundant clock signals (reference signals) [**Watanabe, figure 1**]. Additionally, Watanabe's selector allows the router to operate without having to make modifications at the hardware level. It would have been obvious to a person of ordinary skill in the art at the time of the invention to use Watanabe's circuit in Kato's invention to allow for different sources to be used as a clocking signal [**Watanabe, 0008-0009**].

19. **Claim 12** is rejected under 35 U.S.C. 103(a) as being unpatentable over Kato in view of the APA as applied to **claim 1** above, and further in view of Bytheway ("Is Your Plant Infrastructure Up to Handling Multichannel Digital Audio").

20. For **claim 12**, the combination of Kato and the APA does not disclose a the alignment of more than one signal to a reference signal. Bytheway discloses a situation where two different

signals, arriving at different times, are aligned to the same reference window [page 4, 1st paragraph of the 2nd column]. Bytheway's invention locks (a non-continual manner) audio sources to a common reference input [page 2 1<sup>st</sup> paragraph of Synchronization and Phasing]. It would have been obvious to a person of ordinary skill in the art at the time of the invention to align two different signals to a reference signal in Shuholm's invention to conform to an AES standard [Bytheway, page 3 AES- 1997 – Quick Summary].

21. **Claim 16** is rejected under 35 U.S.C. 103(a) as being unpatentable over Shuholm in view of Kato and Watanabe as applied to **claim 8** above, and further in view of Bytheway.

22. For **claim 16**, the combination of Shuholm, Kato and Watanabe disclose the use of information transmitted according to an AES standard [Shuholm, figure 4]. The combination of Shuholm, Kato and Watanabe does not disclose the alignment of more than one signal to a reference signal. Bytheway discloses a situation where two different signals, arriving at different times, are aligned to the same reference window [page 4, 1st paragraph of the 2nd column]. Bytheway's invention locks (a non-continual manner) audio sources to a common reference input [page 2 1<sup>st</sup> paragraph of Synchronization and Phasing]. It would have been obvious to a person of ordinary skill in the art at the time of the invention to align two different signals to a reference signal in Shuholm's invention to conform to an AES standard [Bytheway, page 3 AES- 1997 – Quick Summary].

*Allowable Subject Matter*

23. **Claims 5-6 and 13-14** are allowed.

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JEFFREY M. RUTKOWSKI whose telephone number is (571)270-1215. The examiner can normally be reached on Monday - Friday 7:30-5:00 PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kwang Yao can be reached on (571) 272-3182. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Jeffrey M Rutkowski  
Patent Examiner  
05/07/2009

/KWANG B. YAO/  
Supervisory Patent Examiner, Art Unit 2416